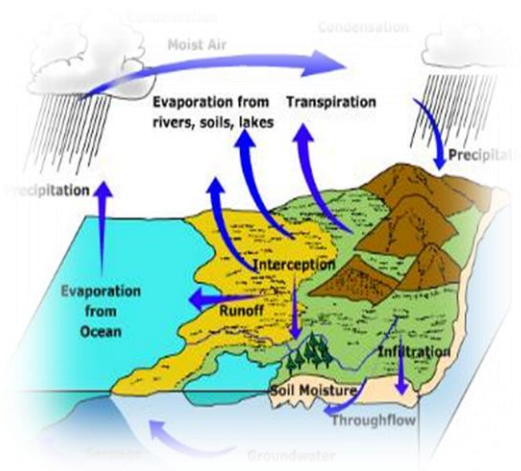




The following activities may be used to reinforce learning of information covered in the Facility Runoff Control Plan video.



## Positive v. Negative

This video covered all of the reasons why the agency should comply with the Facility Runoff Control Plan. This team challenge is to show that for every reason the crew may think of NOT to comply there is a positive reason TO comply.

- Divide the room into two teams. Determine which team will start. (flip of a coin, etc)
- Starting team will state a work-related negative about the Facility Runoff Control Plan. The other team must respond with a positive.
- The team that stated a positive, then states a negative (that has not been used) challenging the other team to come up with a positive.
- This continues until one team cannot come up with a positive. When this happens, the other team wins.
- Below are some possible negatives with positive responses.

**Note:** If the teams have many members, they will determine the order in which they are going to accept the challenge. (I.e. who is first to bat.) Once they have had their turn, they go to the back of the line.

|  | Negative  | Positive   |
|--|---|--|
| <b>Nutrients</b>                                 | What is the difference between hosing and sweeping?<br>It takes time to measure, what difference does an ounce make?  | Phosphorous and nitrogen in lakes and streams lead to toxic algal blooms negatively impacting the food chain. Leaves and Grass clippings are a source.   |
| <b>Oil and Grease</b>                            | Time it takes to clean up spills. Hi-dry is too messy. We have an oil and water separator, it does not matt   | Keeps water drinkable. Prevents cancer as even small quantities may cause it. Staining is limited. Prevents slips and falls. Keeps facility looking nice. Keeps oil and grease out of storm water. |
| <b>Pathogens</b>                                 | You cannot stop birds from crapping all over. I do not know how often I have to check the septic tank. It stinks.<br>I do not know who does this in our area. Nobody else does it anyway. | Pathogens come primarily from human and animal wastes and can cause disease. Improperly maintained septic systems may introduce these wastes into our water.                                       |
| <b>Certification training for pesticide use.</b> | The test is hard. You want me to sit in a classroom when there is work to be done. I never learn anything.  | The toxic nature of the chemicals in pesticides damage water resources. Training and certification of proper use and disposal help protect you and our natural resources.                          |
| <b>Sediment</b>                                  | We do not have a sweeper or broom in this yard. Dirt is everywhere, it does not matter. Our yards have dirt anyway.   | Over time, sediment ends up in our waterways and accumulates there, along with all the other pollutants it carried.  |
| <b>Salt Piles</b>                                | Cannot predict how much salt will be needed.  | Excess could end up in right-of-ways, across facilities, in waterways.   |

## Best Management Practices

This team challenge is to become familiar with BMP's and stimulate ideas for new ones.

- Divide the room into two teams.
- Determine which team will start. (flip of a coin, etc)
- Starting team will state a work situation such as oil spill. The other team must respond with a BMP.
- The team that stated a BMP will then state a situation (that has not been used) challenging the other team to come up with a BMP.
- This continues until one team cannot come up with a BMP. When this happens, the other team wins.

**Note:** If the teams have many members, they will determine the order in which they are going to accept the challenge. (I.e. Who is first to bat.) Once they have had their turn, they go to the back of the line.

The table below is a tool you may choose to use. You may choose to take each situation listed and print/type it on a card. When it is a team's turn to come up with a situation, they could draw from the deck, etc.

| <b>Situation</b>                           | <b>BMP</b>  |
|--|---|
| Chemicals                                  | <b>Labeling</b> - Everything should be labeled  |
| Storage                                    | <b>Location</b> -Risk of discharge outdoors. Tracked into the path of storm water.  |
| Oil Spill                                  | <b>Leaking</b> -Use an oil pan, absorbent pad, sock or material to contain the leak.  |
| Outside Storage of Barrels                 | <b>Lids</b> -Lids keep materials in their designated area and properly labeled container. If it does not have a lid and needs to be stored outside, turn it upside down so rainwater cannot enter.  |
| Salt Pile                                  | <b>Less</b> -Only order materials you need. Excess could end up in right-of-ways, across facilities, in waterways. Reduce stockpiles.   |
| Erosion                                    | Inspect soil and gravel areas to locate erosion and off-site discharge of sediment or aggregate that needs to be prevented.   |
| Oil-Water Separator                        | Keep oil-water separators clear of build-up r   |
| Backed up Drain                            | Keep floor drains clear of build-up or debris to ensure proper drainage.  |
| Fertilizer spill                           | Use dry cleaning methods such as sweeping instead of water cleanup, when possible   |
| Vehicle & Equipment Maintenance & Repair   | Do not repair or maintain vehicles and equipment near drain inlets, catch basins, or outfalls.  |
| Vehicle & Equipment Fueling                | Park vehicles and/or equipment close to the pump when refueling.  |
| Vehicle & Equipment Washing                | Wash vehicles in areas away from drain inlets, catch basins, outfalls, and areas that are prone to flooding or ponding.   |
| Parked vehicle & equipment storage         | Keep parts, equipment and vehicles stored indoors or within designated outdoor areas away from storm drains, inlets, or catch basins.   |
| Stockpiled Materials                       | Locate raw material stockpiles away from drain inlets, catch basins, and outfalls.  |
| Weed & Pest Management Chemicals           | Sweep up loose product that is outside of designated area to prevent tracking. Store and dispose of pesticides and fertilizers per manufacturer's instructions and any state requirements.  |
| Paints, Adhesives, Solvents                | When receiving new product materials, check drums, tanks and containers for leaks.  |
| Petroleum, oils & fluids                   | Close containers between filling and emptying events.   |
| Aboveground and underground storage tanks. | Inspect storage tanks, pumps, pipes and valves for leaks, signs of corrosion, support or foundation failure, or other deterioration. Inspect paved surfaces near tanks for visible signs of residue. Cleanup fuel or oil on surfaces by grinding absorbent into the surface and sweeping up material. |
| Waste Materials                            | Label all waste receptacles according to waste type.  |
| Construction Salvage                       | Develop a plan to reuse or dispose of construction salvage as soon as material is brought on-site.  |
| Recyclables                                | Store batteries in an upright position in leak-proof covered containers. Schedule regular pick-ups for waste tires, scrap metal, used oil, used antifreeze and other waste intended for recycling.  |

## Matching

Select the correct type and information for each subject. **(Answer Key)**

This could be set up as an individual or group activity. 5-7 minutes would be a reasonable amount of time to complete this. The individual/team with the most correct answers will win.

| <b>Subject</b>                      | <b>Types</b>   | <b>Information</b>   |
|-------------------------------------|--|--|
| Pathogens                           | human and animal wastes  | Improperly maintained septic systems.  |
| Nutrients (phosphorus and nitrogen) | Fertilizers, dead leaves, grass clippings  | Cause toxic algal blooms. Effects human skin, liver and nervous systems.                   |
| Sediment                            | Natural and human made. Rock, clay, dirt   | Carried by Storm Water. Number 1 pollutant to Nebraska waterways.                          |
| Oil and Grease                      | drips, spills, leaks, tank failure   | 1 tbsp to 10,000 gallons water makes water undrinkable. Small quantities cause cancer.     |
| Salt and Pesticides                 | toxic chemicals and sodium chloride  | The less we use the better   |
| Pollution                           | toxic chemicals, trash, metals, chlorides, pesticides, battery acid                  | Anything that gets into the environment for a purpose other than what it was intended for. |
| Non-Point Source                    | pollutants that come from everywhere   | 40% of all impaired waters are affected solely by this                                     |
| Storm Water Runoff                  | Precipitation or snowmelt moving through the ground                                  | Degrades the nation's waters more than industry.   |
| Salt Piles                          | Chlorides. Store in sheds.   | Cover when loading is done. Reduce toward end of winter operations.                        |
| Antifreeze                          | Heavy metals. Silicates  | Place in labeled 55-gallon drum. Illegal to place down the drains                          |
| Qualified Facility Inspector        | Controls facility runoff/non-point sources. Identified by Maintenance Superintendent | Completes form every 30 days. Have adapted FRCP  |
| MS-4                                | Municipal Separate Storm Sewer System  | population base of 10,000 or greater   |
| NPDES                               | National Pollutant Discharge Elimination System                                      | System to eliminate discharge pollutants.  |
| FRCP                                | Facility Runoff Control Plan   | Supports NDOR State-wide storm water management program.                                   |
| BMPs                                | Can be referred to as personal Actions   | Prevention, Calibration, common sense  |
| CWA                                 | Clean Water Act  | Intent of the legislature to protect waters of the United States                           |
| EPA                                 | Federal Regulatory Environmental Agency  | Enforcement is on the upswing. Ability to impose fines.                                    |
| Point Source                        | Pipe. Drain. Inlet. Septic system.   | Defined industry and Agriculture.  |
| NDEQ                                | State Environmental Regulatory Agency  | NDOR submits annual reports to this agency.  |

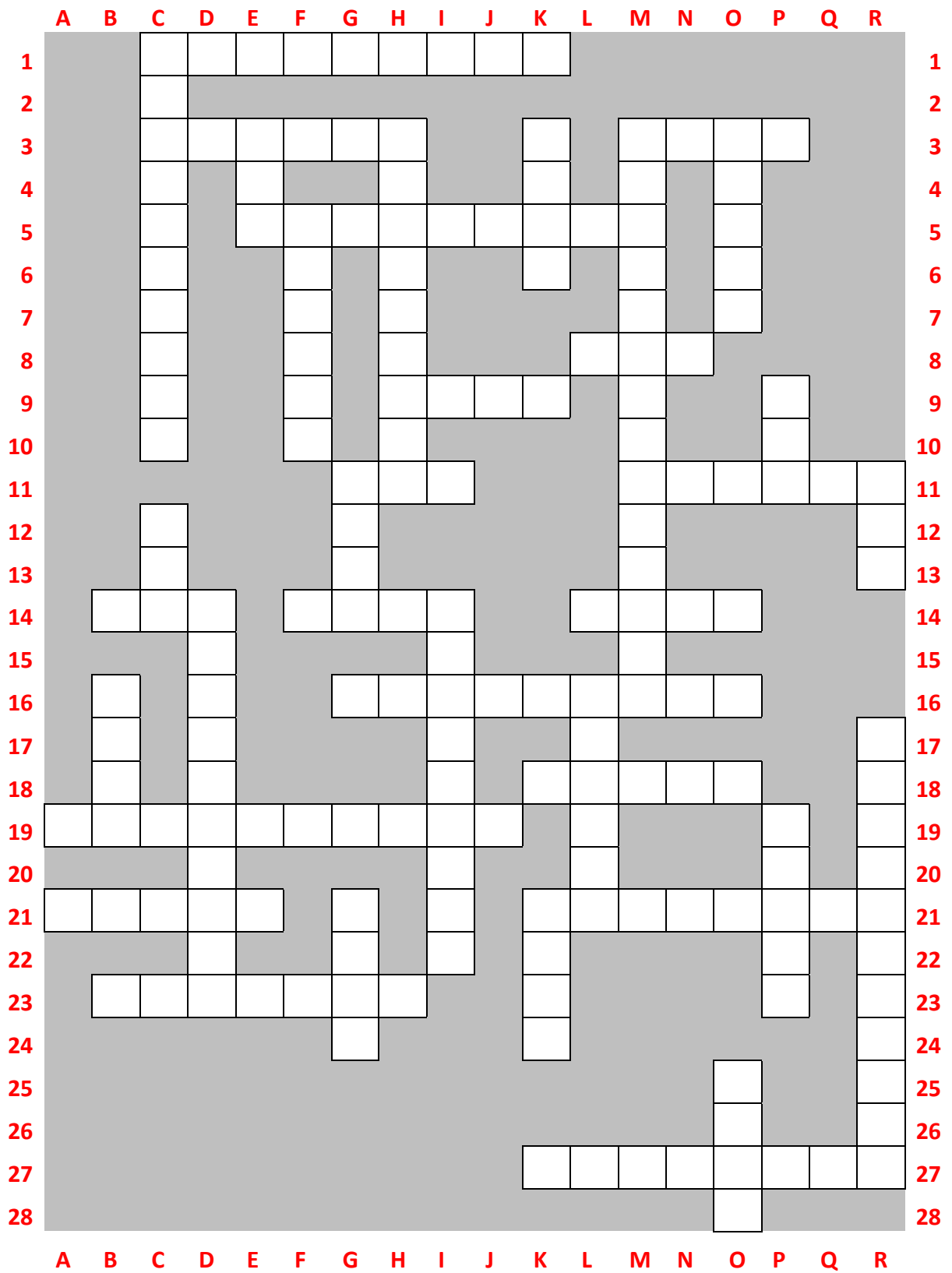
## Matching

Select the correct Type and Information for each subject.

| * | # | Subject                                    | * | *Types   | #  | #Information   |
|---|---|--|---|--|----|--|
|   |   | <b>Oil and Grease</b>                      | A | human and animal wastes  | 1  | The less we use the better   |
|   |   | <b>NDEQ</b>                                | B | pollutants that come from everywhere   | 2  | 40% of all impaired waters are affected solely by this                                 |
|   |   | <b>Storm Water Runoff</b>                  | C | Precipitation or snowmelt moving through the ground                                  | 3  | 1 tbsp to 10,000 gallons water makes water undrinkable. Small quantities cause cancer. |
|   |   | <b>Sediment</b>                            | D | drips, spills, leaks, tank failure   | 4  | Carried by Storm Water. Number 1 pollutant to Nebraska waterways.                      |
|   |   | <b>Antifreeze</b>                          | E | Fertilizers, dead leaves, grass clippings  | 5  | Cause toxic algal blooms. Effects human skin, liver and nervous systems.               |
|   |   | <b>Qualified Facility Inspector</b>        | F | toxic chemicals and sodium chloride  | 6  | Anything that gets into the environment for a purpose other than what it was intended. |
|   |   | <b>Pollution</b>                           | G | toxic chemicals, trash, metals, chlorides, pesticides, battery acid                  | 7  | population base of 10,000 or greater   |
|   |   | <b>NPDES</b>                               | H | National Pollutant Discharge Elimination System                                      | 8  | System to eliminate discharge pollutants.  |
|   |   | <b>FRCP</b>                                | I | Facility Runoff Control Plan   | 9  | Supports NDOR State-wide storm water management program.                               |
|   |   | <b>BMPs</b>                                | J | Can be referred to as personal Actions   | 10 | Place in labeled 55-gallon drum. Illegal to place down the drains                      |
|   |   | <b>CWA</b>                                 | K | Controls facility runoff/non-point sources. Identified by Maintenance Superintendent | 11 | Intent of the legislature to protect waters of the United States                       |
|   |   | <b>EPA</b>                                 | L | Federal Regulatory Environmental Agency  | 12 | Enforcement is on the upswing. Ability to impose fines.                                |
|   |   | <b>Point Source</b>                        | M | Pipe. Drain. Inlet. Septic system.   | 13 | Defined industry and Agriculture.  |
|   |   | <b>Non-Point Source</b>                    | N | Natural and human made. Rock, clay, dirt   | 14 | NDOR submits annual reports to this agency.  |
|   |   | <b>Salt and Pesticides</b>                 | O | Chlorides. Store in sheds.   | 15 | Prevention, Calibration, common sense  |
|   |   | <b>Nutrients (phosphorus and nitrogen)</b> | P | Clean Water Act  | 16 | Completes form every 30 days. Have adapted FRCP  |
|   |   | <b>Salt Piles</b>                          | Q | Municipal Separate Storm Sewer System  | 17 | Improperly maintained septic systems.  |
|   |   | <b>Pathogens</b>                           | R | State Environmental Regulatory Agency  | 18 | Degrades the nation's waters more than industry.                                       |
|   |   | <b>MS-4</b>                                | S | Heavy metals. Silicates  | 19 | Cover when loading is done. Reduce toward end of winter operations.                    |

# Answer Key

|    | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |    |
|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| 1  |   |   | C | H | E | M | I | C | A | L | S |   |   |   |   |   |   |   | 1  |
| 2  |   |   | O |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  |
| 3  |   |   | L | A | B | E | L | S |   |   | R |   | N | P | D | S |   |   | 3  |
| 4  |   |   | L |   | M |   |   | A |   |   | A |   | O |   | R |   |   |   | 4  |
| 5  |   |   | E |   | P | O | L | L | U | T | I | O | N |   | A |   |   |   | 5  |
| 6  |   |   | C |   |   | X |   | T |   |   | N |   | P |   | I |   |   |   | 6  |
| 7  |   |   | T |   |   | Y |   | P |   |   |   |   | O |   | N |   |   |   | 7  |
| 8  |   |   | I |   |   | G |   | I |   |   |   | O | I | L |   |   |   |   | 8  |
| 9  |   |   | O |   |   | E |   | L | I | D | S |   | N |   |   | M |   |   | 9  |
| 10 |   |   | N |   |   | N |   | E |   |   |   |   | T |   | U |   |   |   | 10 |
| 11 |   |   |   |   |   |   | M | S | 4 |   |   |   | S | L | U | D | G | E | 11 |
| 12 |   |   | M |   |   |   | A |   |   |   |   |   | O |   |   |   | P |   | 12 |
| 13 |   |   | O |   |   |   | S |   |   |   |   |   | U |   |   |   | A |   | 13 |
| 14 |   | C | W | A |   |   | S | K | I | N |   |   | F | R | C | P |   |   | 14 |
| 15 |   |   |   | N |   |   |   |   | U |   |   |   | C |   |   |   |   |   | 15 |
| 16 |   | D |   | T |   |   | P | A | T | H | O | G | E | N | S |   |   |   | 16 |
| 17 |   | I |   | I |   |   |   |   | R |   |   | R |   |   |   |   | P |   | 17 |
| 18 |   | R |   | F |   |   |   |   | I |   | S | E | W | E | R |   | O |   | 18 |
| 19 | S | T | O | R | M | W | A | T | E | R |   | A |   |   |   | C | I |   | 19 |
| 20 |   |   |   | E |   |   |   |   | N |   |   | S |   |   | L |   | N |   | 20 |
| 21 | T | R | E | E | S |   | T |   | T |   | S | E | D | I | M | E | N | T | 21 |
| 22 |   |   |   | Z |   |   | A |   | S |   | O |   |   |   |   | A |   | S | 22 |
| 23 |   | F | U | E | L | I | N | G |   |   | I |   |   |   |   | R |   | O | 23 |
| 24 |   |   |   |   |   |   | K |   |   |   | L |   |   |   |   |   |   | U | 24 |
| 25 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | S |   |   | R | 25 |
| 26 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | P |   |   | C | 26 |
| 27 |   |   |   |   |   |   |   |   |   |   | P | E | S | T | C | I | D | E | 27 |
| 28 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | C |   |   |   | 28 |
| 29 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 29 |
|    | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |    |





| Across | Clue  |
|--------|---|
| G 11   | Municipal Separate Storm Sewer System                                     |
| A 14   | Clean Water Act   |
| A 19   | Runoff that degrades the nation's waters more than industry.              |
| A 21   | Produce F5 down   |
| B 23   | When doing this, park vehicles close to the pump.                         |
| C 3    | One of the 5 L's  |
| C 1    | We want to limit the amount of exposure to these.                         |
| E 5    | Anything that gets into the environment for a purpose other than intended |
| F 14   | Nutrients in lakes can damage this.                                       |
| G 16   | Can come from improperly maintained septic- systems.                      |
| H 9    | One of the 5 L's  |
| K 27   | The less we use the better  |
| K 21   | Number one pollutant in Nebraska waterways.                               |
| K 18   | Part of MS4 Acronym   |
| L 8    | Small quantities cause cancer.  |
| L 14   | Supports NDOR State-wide storm water management program.                  |
| M 3    | Pollutant Discharge Elimination System                                    |
| M 11   | Was found in the Cuyahoga River in the 1960's                             |

| Down | Clue   |
|------|--|
| D 14 | Place in a labeled 55-gallon drum.                                     |
| E 3  | Best Management Practices  |
| B 16 | Another name for soil  |
| T 3  | 40% of all impaired waters are affected solely by this source.         |
| O 3  | Storm water flows to a _____   |
| R 11 | Environmental Protection Agency  |
| L 16 | One tablespoon to 10,000 gallons makes water undrinkable.              |
| I 14 | Affects human skin, liver and nervous systems.                         |
| F 5  | Makes up 25% of the atmosphere by volume.                              |
| R 17 | Industry and Agriculture is this type of pollutant.                    |
| K 3  | Can carry ground sediments to lakes and streams.                       |
| H 3  | Excess could end up in right-of-ways, across facilities, in waterways. |
| G 21 | A form of storage container.   |
| C 12 | Creates grass clippings, which need to be confined.                    |
| K 21 | Contains sediments.  |
| O 25 | Spill Prevention Control and Countermeasures                           |
| C 1  | A site to store recyclables.   |
| P 19 | The type of water we want to drink.                                    |
| G 11 | A form of PPE.   |
| P 9  | One type of sediment.  |

